National Oceanic and Atmospheric Administration
Central Region Collaboration Team

Annual Report
FY 2015

NOAA Vision

Science, Service, Stewardship: Healthy ecosystems, communities, and economies that are resilient in the face of change

NOAA Mission

Science, Service, and Stewardship: To understand and predict changes in climate, weather, oceans, and coasts, to share that knowledge and information with others, and to conserve and manage coastal and marine ecosystems and resources.

FY 16 NOAA Priorities

Make communities more resilient
Evolve the Weather Service
Invest in Observational Infrastructure
Achieve Organizational Excellence

Regional Collaboration Vision

A unified and regionally integrated NOAA

Regional Collaboration Mission

To identify, communicate and respond to regional needs, catalyze collaboration; and connect people and capabilities to advance NOAA's mission and priorities.

GOAL: *Address regional challenges by connecting people and resources*

GOAL: *Exchange both national and regional insights that inform action*

GOAL: *Improve the understanding of and respect for NOAA's broad mission and regional capabilities*

Core Values

Regional knowledge and **context** matter

Partnerships and **shared responsibility** are foundational

Relationships are based on **mutual trust** and **respect**

Collaboration is essential to successful **leadership**

Innovation and **creativity** are integral to executing NOAA's mission

NOAA Central Region Team Members

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Acting Chief Learning Officer
National Weather Service
NOAA Central Region Team Lead

Bethany Perry
Coordinator
NOAA Central Region Collaboration Team

Lisa Darby
Physical Sciences Division
Earth Systems Research Lab

Pam Fromhertz
Colorado State Advisor
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Weather Forecast Office, Rapid City, SD

2015 Central Region Team Annual Meeting
Visit to the National Data Buoy Center

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Regional Climate Services Director
National Centers for Environmental Information

Wendy Pearson
Deputy Chief Hydrologic Services
NWS Central Region

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North Central River Forecast Center

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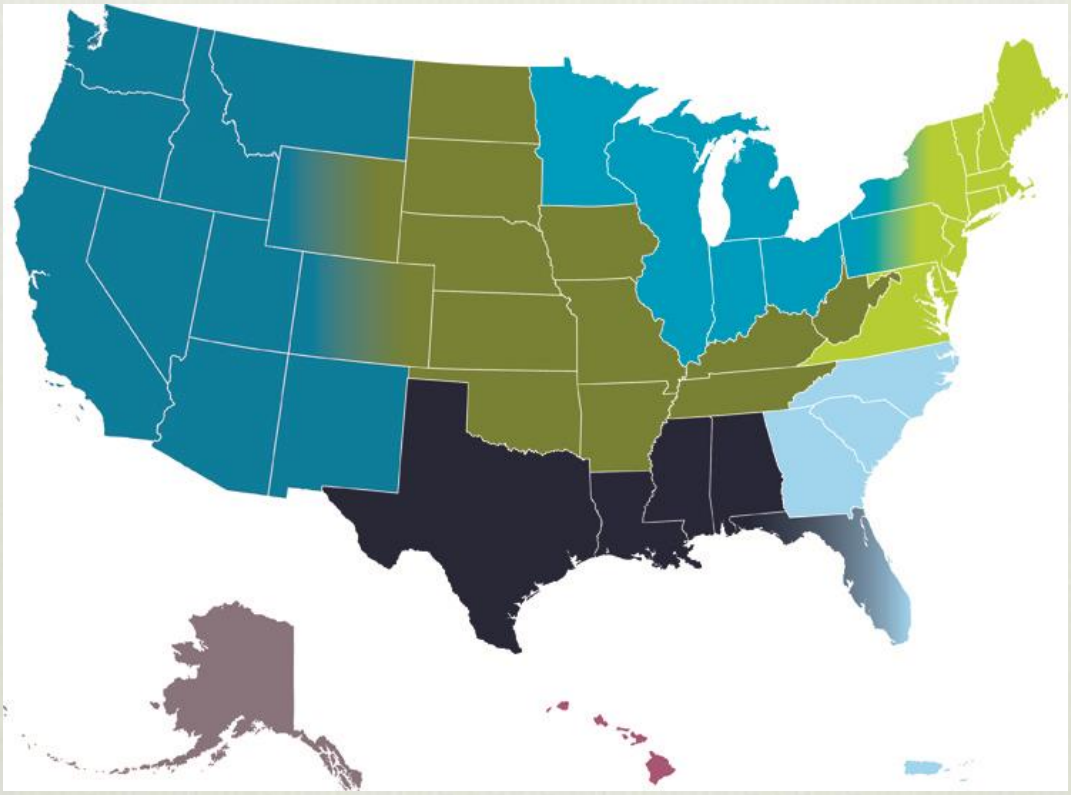
Director / Acting Director
High Plains Regional Climate Center

Hilarie Sorenson
Climate Change Extension Educator
Minnesota Sea Grant

Dianne Suess
Executive Officer
Space Weather Prediction Center

Regional Collaboration Background

NOAA's Regional Collaboration effort is a network of NOAA employees and partners representing the agency's diverse capabilities across the country. Eight geographic regions are represented by Regional Collaboration Teams, comprised of members representing line office mission interests and capabilities. The teams are led by senior level Regional Team Leads and full-time Regional Coordinators. At the national level, the effort is supported and overseen by the NOAA Executive Panel, and an Advisory Group consisting of headquarters-level Line Office leadership.

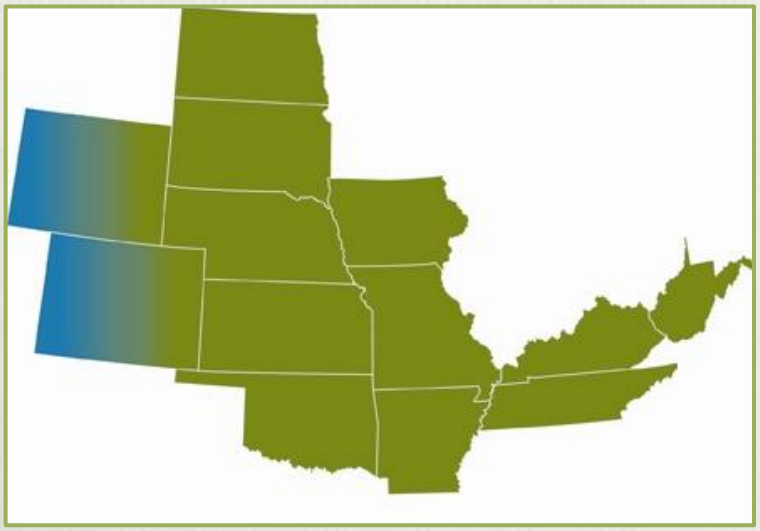


NOAA's Regional Collaboration Network includes eight regions – Pacific, West, Central, Gulf of Mexico, Great Lakes, Southeast and Caribbean, and the North Atlantic

NOAA has many partners with many needs, and demands for NOAA services are growing. The effective implementation of NOAA's mission requires consideration of variability in the natural environment and also regionally specific attributes of the citizenry, and the places in which they live.

Many of the complex challenges that drive NOAA mission are place based, and require interdisciplinary approaches and regionally tailored solutions. The Regional Collaboration network addresses regional challenges by engaging and connecting people and resources within the regions and with headquarters, in ways that are rich in regional insight and that inform action. Through this work, NOAA's Regional Collaboration effort improves the understanding of, and respect for NOAA's broad mission and regional capabilities. Our vision of a unified and regional integrated NOAA is focused on service to the nation by meeting the evolving demands of regional stakeholders.

NOAA Central Region Collaboration Team



NOAA Central Region Footprint

NOAA's Central Region stretches from the Rocky Mountains on the western edge over the plains to the rolling hills on the eastern edge. This unique geography of the region makes it a focus for high-impact weather events. Tornadoes, winter storms, flooding, drought, heat, and more create significant effects the region.

The Central Region includes the four largest watersheds in the nation— The Mississippi, Missouri, Ohio and Arkansas Rivers. In addition to flooding and drought events, water drains from these watersheds and makes up the balance of the fresh water flow into the Gulf of Mexico and has a profound effect on ecosystems. The agricultural runoff and impacts of transportation can affect the rivers, and ultimately coastal areas.

NOAA's Central Region has a population of over 40 million and is responsible for a significant portion of the nation's agriculture, transportation networks, and technology along the Rocky . These sectors touch everything from national food and fuel prices to ecology and conservation. Serving as the "breadbasket" of the world, the effects of severe weathers, climate change and water issues have great economic impacts through the nation and worldwide.

NOAA assets in the Central Region include over 1,500 employees and a host of facilities ranging from weather forecast offices to research laboratories. Staff are concentrated primarily in three large office centers located in Kansas City, MO; Norman, OK; and Boulder, CO; with others scattered across the region. Additionally, a significant amount of regional capacity resides in NOAA funded non-governmental entities including the High Plains Regional Climate Center (HPRCC), The Cooperative Institute for Research in the Atmosphere (CIRA), The Cooperative Institute for Research in Environmental Sciences (CIRES), The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS), and the Southern Climate Impacts Planning Program (SCIPP).

Collaboration Team members represent the diversity of programs within the region, provide expertise and connections to address regional challenges, exchange national and regional insights that inform action, and improve the understanding of and respect for NOAA's broad mission and regional capabilities.

Wind energy production is becoming a more common site along lakes and in field across the region.

Flash flooding and urban flooding create hazardous conditions for drivers, impact homeowners and business, and damage major infrastructure.

Regional Collaboration Goal: Address regional challenges by connecting people and resources

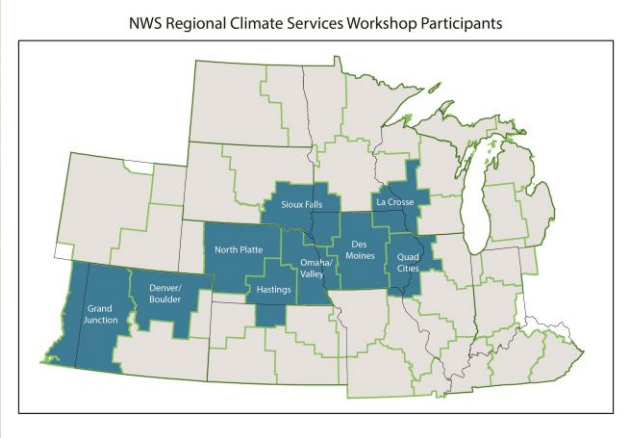
Building and Strengthening Capacity for Regional Climate Services

With a seemingly overwhelming amount of climate data and information available, addressing the needs of National Weather Service Climate Focal Points and engaging them as collaborators is imperative to enhancing Regional Climate Services (RCS) in the Central Region and beyond. The High Plains Regional Climate Center at the University of Nebraska-Lincoln, in partnership with the NOAA Central Region Collaboration Team, conducted an in-person short course on September 22—24, 2015. This opportunity focused on NWS Climate Focal Points, representing nine different forecast offices. Using support from the NOAA Central Region Collaboration Team, a minimal amount of money made a big impact on the region by increasing capacity to address people's climate-related needs.

Participants of the HPRCC Short course visit a weather and climate monitoring station on the campus of the University of Nebraska – Lincoln.

Weather and climate monitoring instruments are calibrated in labs at the High Plains regional Climate Center.

The course provided an opportunity for participants to network and engage on collaborative opportunities and covered several areas to provide awareness and training for a wide range of climate products and services, including: an introduction to Regional Climate Services; hands-on experience with climate data and information tools and other online products; mesonets in the Missouri River Basin, and familiarization with key regional partners such as Regional Climate Service Directors, Regional Clime Centers, State Climatologists, the National Drought Mitigation Center and the NOAA Central Region Collaboration Team. Using evaluations and feedback from participants, this first short course helps lay the framework for additional training in 2016 and 2017. The goal is to create Climate Focal Points who are not only knowledgeable of regional climate services, but can also participate and collaborate in applied climate research and outreach activities within the region.



Thirteen NWS staff from nine NWS Forecast Offices participated in the HPRCC short course.

Regional Collaboration Goal: Exchange both national and regional insights that inform action

Support in Development of Drought Early Warning System for the Missouri River Basin

NOAA is charged with helping society understand, plan for, and respond to climate variability and change and is committed to providing a suite of relevant climate products and services to help governments, businesses, and communities manage climate risks, adapt to changing conditions and reduce the threat of climate change. Climate change, its impacts, and society's responses to those impacts have emerged as important concerns with many of NOAA's constituents in the Central Region. Along with a group of regional climate and social science experts, the NOAA Central Region Collaboration Team (CRT) works to understand stakeholder needs in both short and long term time scales as climate variability and change occurs or is projected to occur across the region.

Over 70 participants, representing at least 50 separate organizations, attended the kickoff meeting for the Missouri River Basin Drought Early Warning System.

Drought conditions impact the Missouri River Basin, creating significant challenges for agriculture and livestock producers within the Central Region.

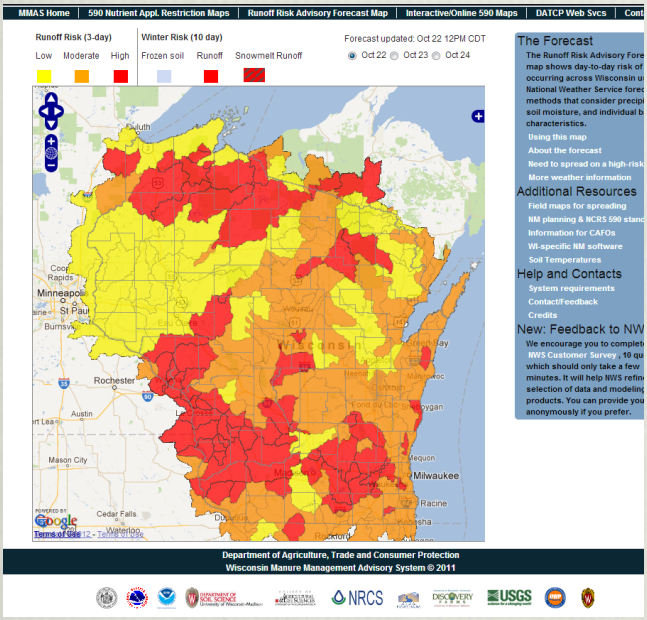
In FY15, The NOAA CRT worked closely with the National Integrated Drought Information System (NIDIS) on the planning and development of two Drought Early Warning Systems (DEWS) for the Missouri River Basin and the Midwest. Team members serve in leadership and supporting roles in a multi-year process to determine regional needs, develop and strengthen partnerships, explore solutions to meet gaps and connect resources. A DEWS provides an opportunity to create a system to help decision makers at all levels access climate data and information, promote revision and development of tailored drought plans, and explore mechanisms to address regional gaps—such as the need for increased monitoring. These results provide a valuable resource for preparing and responding to drought conditions throughout the region.

The effort will conclude in Spring 2016, with a retrospective conditions report and human systems and NOAA mission impacts summary. The effort will be evaluated for its utility in coordinating and summarizing information during future climate related events.

Regional Collaboration Goal: Improve the understanding of and respect for NOAA's mission and regional capabilities

Connecting NOAA Expertise in Support of Integrated Water Services Focused on Gulf of Mexico Hypoxia

In 2009, the NOAA Central Region Team realized the opportunity to collaborate with the Gulf of Mexico Team would be of great benefit to build and strengthen relationships to connect the Gulf of Mexico to the Upper Mississippi River Basin. The teams met together, and unfortunately, shortly thereafter, the Deepwater Horizon accident occurred, forcing the teams to put their collaboration on hold. In 2014, the Central Region Team renewed efforts to connect with the Gulf Team. In both 2014 and 2015, the Team met in the Gulf of Mexico region to foster relationship building. In 2015, the Team shared an expanding project which showed promise in helping the Gulf Region with the daunting challenges of hypoxia. The Runoff Risk Advisory Forecast (RRAF) is a unique forecast tool which shows the day-to-day risk of runoff across an area. This interactive map is customized and provides decision support down to a family farm level, applies to all surface manure and fertilizers used, and is closely coordinated with the states. Started as a pilot in Wisconsin, the RRAF has spread to several other Midwest states and is expanding to provide service delivery nationwide as part of both NWS and NOAA Annual Operating Plans. The NOAA Central Region Team also fosters connections and relationships between from the region with those in the Gulf of Mexico. This collaboration provides opportunities for NOAA to come together on projects related to hypoxia, as well as for other potential ecological forecasting initiatives.



The Runoff Risk Advisory Forecast (RRAF) is a unique forecast tool which shows the day-to-day risk of runoff across a specific area. This map shows a forecast for the state of Wisconsin.

Nutrient loaded runoff from the Central Region is a significant contributor to hypoxic zones within the Gulf of Mexico. The Central Region Team connects NOAA hypoxia SMEs to Hydrology SMEs within the region.

The RRAF is a tool that is well received among partner communities, and has expanded to include numerous states and federal agencies. The National Weather Service recognizes the potential implications of the work and plans to include the tool within its AOP.